

REMARKS

Claims 1-3, 8-30, 33, and 36-48 are pending. Claims 1-3, 27, 28, and 30 are allowed.
Claims 8-26, 29, 33 and 36-48 stand rejected.

35 U.S.C § 112 Indefiniteness rejection

Claims 37-48 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite because they depend on cancelled claim 7. Claim 37 has been re-written in independent form to include all the limitations of cancelled claim 7, plus additional limitations. Claims 38-43 have been re-written to depend on claim 37 instead of cancelled claim 7. Claims 44-48 have been cancelled. With these amendments, the claims are in condition for allowance and accordingly request withdrawal of the rejection.

Obviousness-type double patenting rejection

Claims 8-12 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting in view of copending application No. 09/881,222 and U.S. Patent No. 4,478,917 ("the Fujita patent"). Without agreeing or admitting that this is correct and that the claims are in fact so obvious, applicants have executed and attached a terminal disclaimer for Application No. 09/881,222 filed on June 13, 2001. Accordingly, applicants request that this provisional rejection be withdrawn.

Written Description rejection

Claims 18 and 29 stand rejected under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement. Claim 18 has been amended, and is now drawn to polytetrafluoroethylene. Claim 29 has been amended, and is now drawn to perfluorosulfonic acid. Support for these amendments may be found in the original claims which referred to "Teflon" and "Nafion.". The claims are now in condition for allowance, and applicants request that this rejection be withdrawn.

35 U.S.C §103(a) rejections

Claims 13, 14, 17, 19-21, 23, 25, 26, 33, and 36 stand rejected under 35 U.S.C. § 103(a) in view of U.S. Patent No. 4,390,603 (“Kawana”) and U.S. Patent No. 5,186,877 (“Watanabe”). Additionally, claims 15, 16, and 18 stand rejected under 35 U.S.C. § 103(a) in view of Kawana, Watanabe and U.S. Patent No. 4,478,917 (“Fujita”).

Claim 13 has been amended to incorporate the requirement of a “methanol derivative which is free of acid component.” Support for this amendment may be found in original claim 16 and in the specification. Kawana describes improvements to sulfuric acid-based methanol fuel cells. The fuel cell suffers from several disadvantages by using sulfuric acid. First, the fuel cell contains a highly corrosive liquid, which requires expensive anti-corrosive materials to be used in constructing the fuel cell. Second, the formation of sulfate anions hinders electro-oxidation, which reduces fuel cell performance. Lastly, sulfuric acid tends to degrade above 80°C, which may lead to catalyst poisoning. Watanabe and Fujita discuss electrode improvements, which relate to a sulfuric acid based fuel cell. Because claim 13, as amended, is directed towards a fuel cell that is the opposite of what the prior art references describe, it is not obvious in light of the cited prior art and applicants ask that the rejection be withdrawn.

Dependent claims 14 - 20 all incorporate the limitations of independent claim 13. Hence, they are also not obvious in light of the prior art cited. Therefore, applicants also request that these rejections be withdrawn.

In the interests of advancing prosecution, claims 21, 23, 25, and 26 are cancelled without prejudice.

With regards to claim 33, applicants note that neither Kawana nor Watanabe discloses a circulating system to circulate fuel. Therefore, an obviousness rejection of claim 33 cannot stand, and applicants request that it be withdrawn.

With regards to claim 36, applicants note that Kawana and Watanabe are directed towards a sulfuric acid based fuel cell. In contrast, claim 36 is drawn to an anode that reacts with

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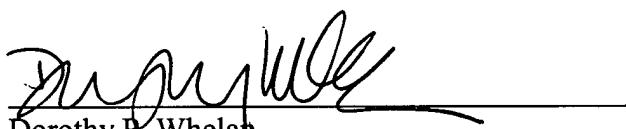
non-acid containing organic fuels. Non-acid containing fuels are not within the contemplation of Watanabe or Kawana. Therefore, applicants request that this rejection be withdrawn.

Claims 22 and 24 stand rejected under 35 U.S.C. § 103(a) in view of Kawana, Watanabe, and U.S. Patent No. 5,453,332 ("Sakairi"). In the interests of advancing prosecution, claims 22 and 24 are cancelled without prejudice.

Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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Dorothy P. Whelan
Reg. No. 33,814

Fish & Richardson P.C., P.A.
60 South Sixth Street
Suite 3300
Minneapolis, MN 55402
Telephone: (612) 335-5070
Facsimile: (612) 288-9696